



TECNOLÓGICO  
NACIONAL DE MÉXICO



**TECNOLÓGICO DE ESTUDIOS SUPERIORES CHALCO**

**INGENIERÍA INFORMÁTICA**



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## INTRODUCTION:

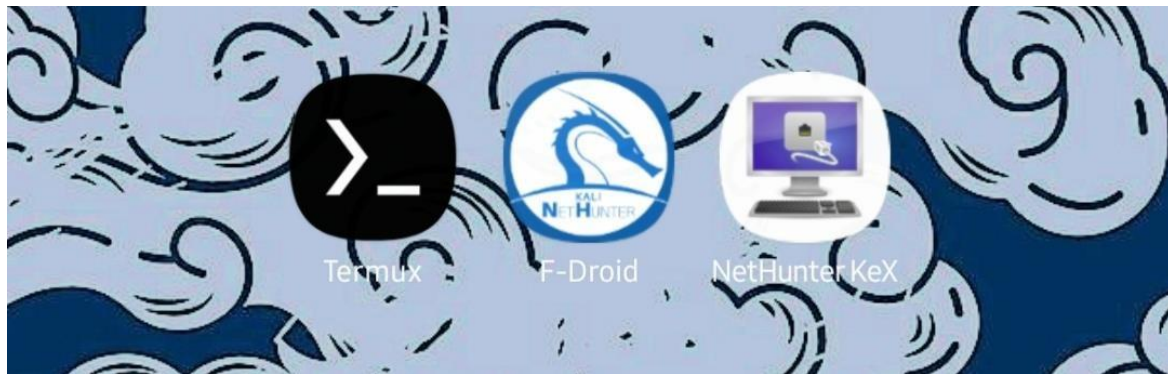
In this document, I'll be discussing how I can make Kali Linux work on my Android phone. Kali Linux is a type of computer system that many people use for computer security and testing. But putting Kali Linux on my phone is tricky. I need special tools and settings.

I'll explain step by step how to do it. I'll focus on two apps I need, called Termux and NetHunter. I'll also talk about what settings I need to change on my phone. And I'll show you how to start a session with pictures on my phone screen, which makes using Kali Linux easier.

By following these steps, I can use Kali Linux on my phone. This gives me more options for testing computer security and learning about this operating system without needing a special computer.

## Kali Linux on Android

To emulate the Linux operating system, Kali Linux, you need to use three specific applications. Firstly, Termux, an app that provides a command-line environment to run Linux commands on Android devices. Secondly, the Nethunter app store, which offers a variety of useful cybersecurity tools and add-ons for penetration testing on Android devices. Lastly, NetHunter KeX, a tool that allows running a graphical user interface of Kali Linux on Android devices by connecting to a remote desktop environment.

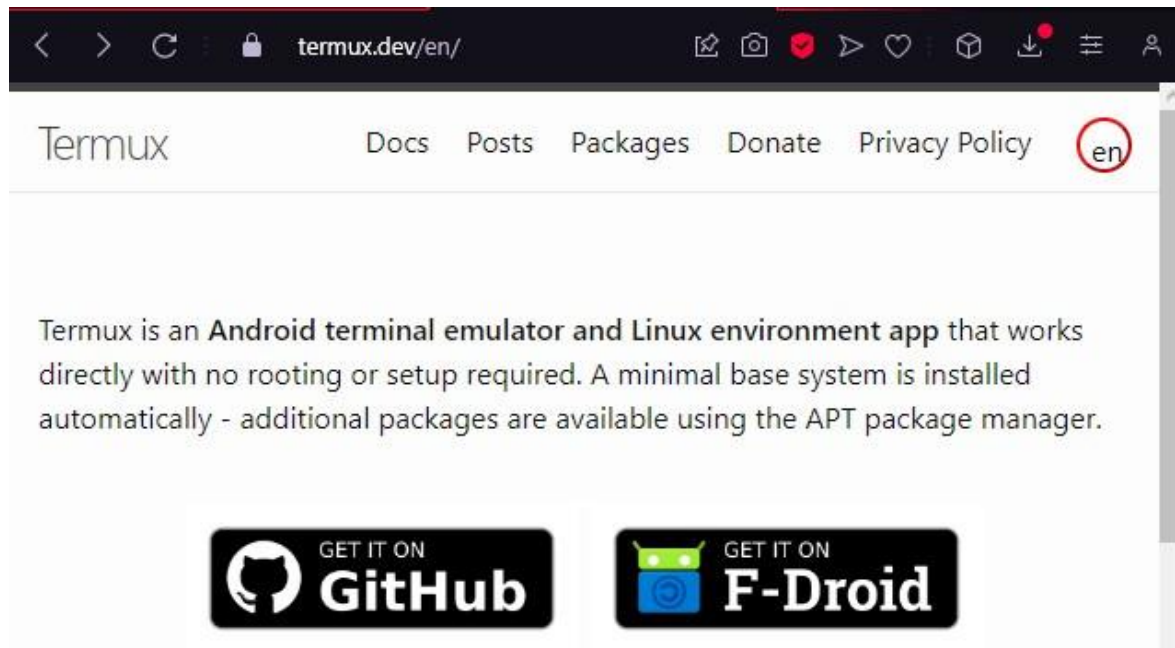


For the installation of Termux, you should go to the official website of Termux:

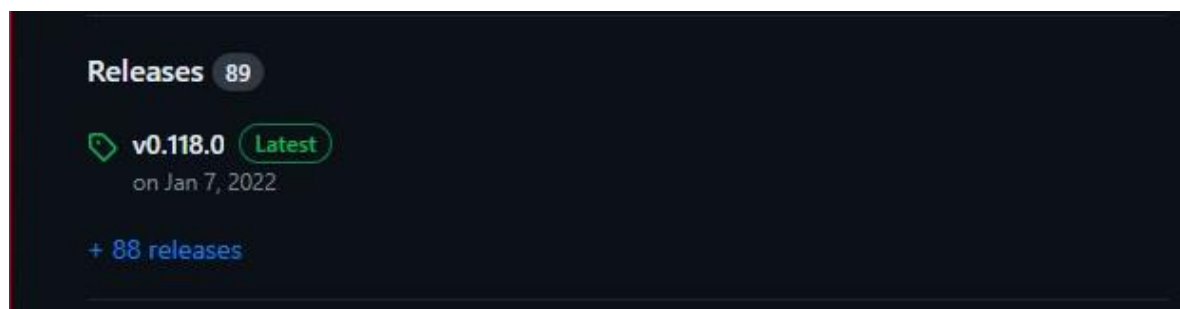
<https://termux.dev/en/>.

Click on "**Get It On GitHub**".

+



Within the page you've been redirected to, scroll down to the section named "**Releases**", click where it mentions **v0.118.0**, download, and install the APK file on your Android device.



When you open the Termux application, the first thing you should do is update the packages using the command **`pkg update`**.



```
10:33 [Icons] •
Gitter chat: https://gitter.im/termux/termux
IRC channel: #termux on Libera.chat

Working with packages:

* Search packages: pkg search <query>
* Install a package: pkg install <package>
* Upgrade packages: pkg upgrade

Subscribing to additional repositories:

* Root: pkg install root-repo
* X11: pkg install x11-repo

Report issues at https://termux.com/issues

~ $ pkg update
```

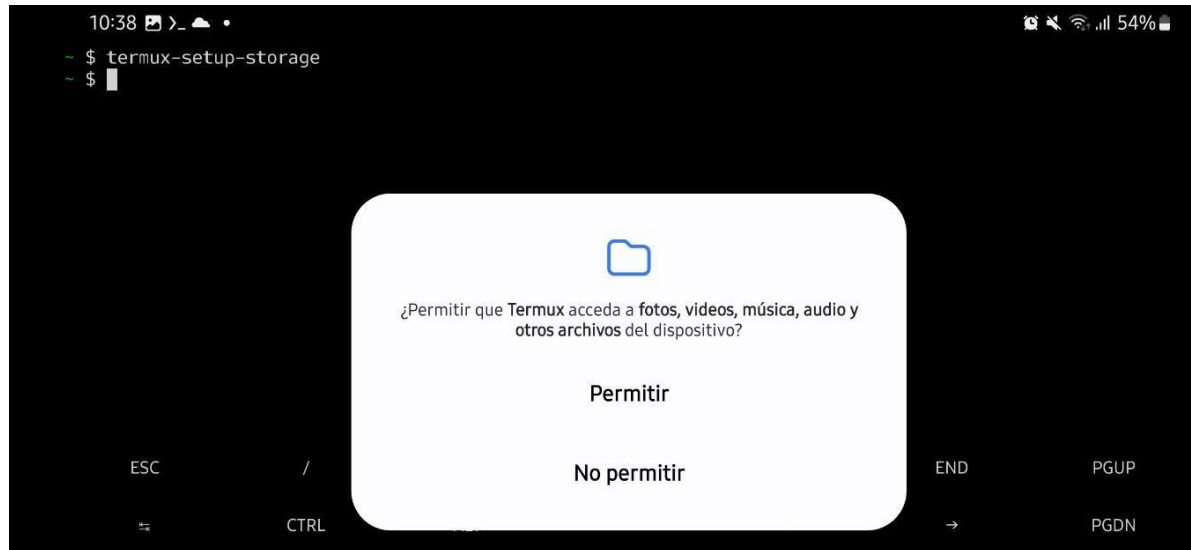
|     |      |     |      |   |     |      |
|-----|------|-----|------|---|-----|------|
| ESC | /    | —   | HOME | ↑ | END | PGUP |
| ⇧   | CTRL | ALT | ←    | ↓ | →   | PGDN |

"Write 'and' followed by an 'Enter' when the following messages appear."

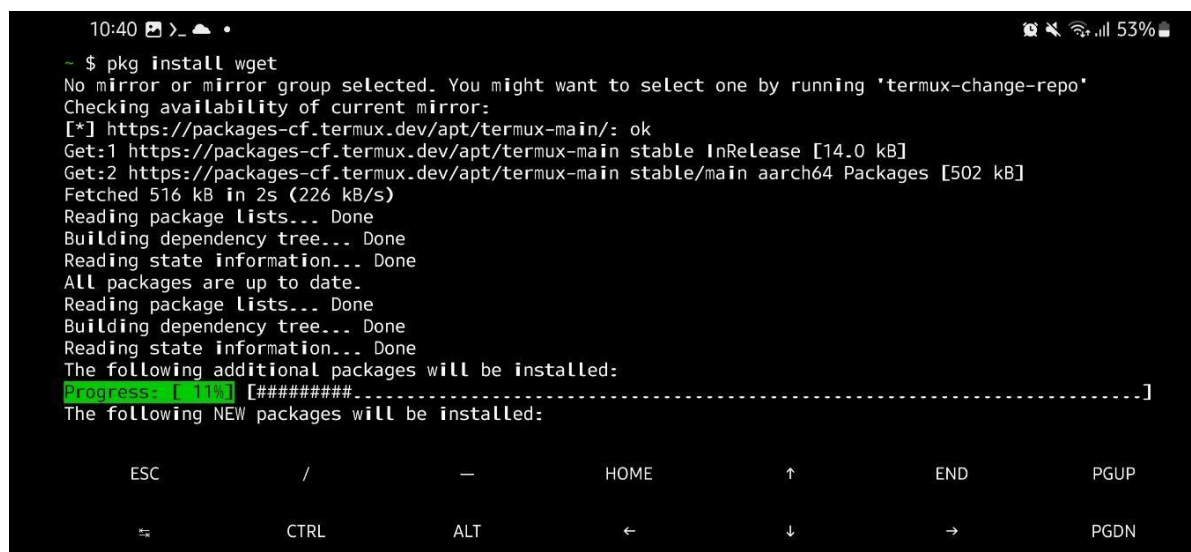
```
10:40 [Icons] >_ •
Get:2 https://packages-cf.termux.dev/apt/termux-main stable/main aarch64 Packages [502 kB]
Fetched 516 kB in 2s (226 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
All packages are up to date.
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libuuid
The following NEW packages will be installed:
  libuuid wget
0 upgraded, 2 newly installed, 0 to remove and 0 not upgraded.
Need to get 293 kB of archives.
After this operation, 877 kB of additional disk space will be used.
Do you want to continue? [Y/n]
```

|     |      |     |      |   |     |      |
|-----|------|-----|------|---|-----|------|
| ESC | /    | —   | HOME | ↑ | END | PGUP |
| ⇧   | CTRL | ALT | ←    | ↓ | →   | PGDN |

Once the package update is completed, you should type the command **`termux-setup-storage`**. This will grant permissions to Termux to write to the storage of the Android device.



Now, it's important to install wget, a tool that will make it easier to download files from the web directly to Termux. This will be crucial for the installation process of Nethunter within Termux, as it will allow us to obtain the necessary files easily. Type the following command in the command line: **`pkg install wget`**



The next step would be to install NetHunter, for that you should type **wget -O install-nethunter-termux <https://offs.ec/2MceZWw>**

This script is an installer to set up Kali NetHunter on Termux, a Linux emulation terminal for Android devices. It automates the installation and configuration process of Kali



NetHunter on Termux, allowing users to run an ethical hacking environment on Android devices conveniently.

```

10:47  53%
~ $ wget -O install-nethunter-termux https://offs.ec/2MceZWrr
--2024-03-29 22:47:46-- https://offs.ec/2MceZWrr
Resolving offs.ec (offs.ec)... 67.199.248.13, 67.199.248.12
Connecting to offs.ec (offs.ec)|67.199.248.13|:443... connected.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: https://gitlab.com/kalilinux/nethunter/build-scripts/kali-nethunter-project/raw/master/nethunter-rootless/install-nethunter-termux [following]
--2024-03-29 22:47:47-- https://gitlab.com/kalilinux/nethunter/build-scripts/kali-nethunter-project/raw/master/nethunter-rootless/install-nethunter-termux
Resolving gitlab.com (gitlab.com)... 172.65.251.78, 2606:4700:90:0:f22e:fbec:5bed:a9b9
Connecting to gitlab.com (gitlab.com)|172.65.251.78|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 12136 (12K) [text/plain]
Saving to: 'install-nethunter-termux'

install-nethunter-termux  100%[=====>]  11.85K  --.-KB/s    in 0.008s

ESC      /      _      HOME      ↑      END      PGUP

      CTRL      ALT      ←      ↓      →      PGDN

```

Once the package is installed, you need to change it to an executable mode by **typing `chmod +x install-nethunter-termux`**, which means giving the file execution permissions.

A screenshot of a terminal window. At the top, the status bar shows the time 10:50, a battery icon, and a signal strength icon. The terminal prompt is a green dollar sign followed by a space. The command being entered is 'chmod +x install-nethunter-termux'. The cursor is at the end of the command. The terminal background is black, and the text is white.

Next . **/install-nethunter-termux** and enter



```
10:52 100% 52%
$ ./install-nethunter-termux
```

Once this is done, the following screen will appear:

```
10:52 100% 52%
## 88 a8P db 88 88 ##
## 88 _88' d88b 88 88 ##
## 88 88' d8'*8b 88 88 ##
## 88 d88 d8'*8b 88 88 ##
## 8888'88_ d8YaaaaY8b 88 88 ##
## 88P Y8b d8'*8b 88 88 ##
## 88 '88_ d8'*8b 88 88 ##
## 88 Y8b d8' '8b 88888888 88 ##
##
#### ##### NetHunter #####

[*] Checking device architecture ...

[1] NetHunter ARM64 (full)
[2] NetHunter ARM64 (minimal)
[3] NetHunter ARM64 (nano)
Enter the image you want to install:
```

Here, you will need to select the option you want to install. In this case, we will install the Full version, which is option 1. Type "1" in the command line and press Enter.



Once done, it will check the dependencies and start downloading what is necessary. The download may take a little time or not, depending on the internet connection.

```

10:57 [Icons] >_ • [Status Icons] 52%
Unpacking axel (2.17.13) ...
Setting up axel (2.17.13) ...
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
[*] Downloading rootfs...

--2024-03-29 22:57:14-- https://kali.download/nethunter-images/current/rootfs/kalifs-arm64-full.tar.xz
Resolving kali.download (kali.download)... 104.18.102.100, 104.18.103.100, 2606:4700::6812:6664, ...
Connecting to kali.download (kali.download)|104.18.102.100|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 2169077584 (2.0G) [application/x-xz]
Saving to: 'kalifs-arm64-full.tar.xz'

kalifs-arm64-full.tar.xz      2%[>                ] 55.47M  3.10MB/s   eta 12m 59s

ESC      /      _      HOME      ↑      END      PGUP
⇧      CTRL      ALT      ←      ↓      →      PGDN

```

When the process finishes and it asks if you want to delete the **rootfs** file, type **"n"**.

```

11:16 [Icons] >_ [Icons] 48%
HTTP request sent, awaiting response... 200 OK
Length: 155 [text/plain]
Saving to: 'kalifs-arm64-full.sha512sum'

kalifs-arm64 100% 155 --.-KB/s in 0s

2024-03-29 23:10:02 (13.6 MB/s) - 'kalifs-arm64-full.sha512sum' saved [155/155]

[*] Verifying integrity of rootfs...
kalifs-arm64-full.tar.xz: OK
[*] Extracting rootfs...

[?] Delete downloaded rootfs file? [y/N] 

```

After typing **"n"**, a menu will appear with the ways in which we can start NetHunter Kali Linux. In this case, you should select to start as a superuser by typing **"nethunter -r"** or **"nh -r"**.



```
11:20 [Icons] [Battery] 48%
[+] nethunter kex passwd # To set the KeX password
[+] nethunter kex &      # To start NetHunter GUI
[+] nethunter kex stop   # To stop NetHunter GUI
[+] nethunter -r         # To run NetHunter as root
[+] nh                   # Shortcut for nethunter

~ $ nethunter -r
(Message from Kali developers)

This is a minimal installation of Kali Linux, you likely
want to install supplementary tools. Learn how:
⇒ https://www.kali.org/docs/troubleshooting/common-minimum-setup/

(Run: "touch ~/.hushlogin" to hide this message)
(root@localhost)~[~]
#
```

At this point, you will have Kali Linux running within Android, but only with command-line interface. Now, we need to make the necessary configurations to be able to visualize Kali Linux with a graphical environment.

First, you will need to configure the resolv.conf file. You should type: `nano /etc/resolv.conf`

```
11:23 [Icons] [Battery] 48%
(root@localhost)~[~]
# nano /etc/resolv.conf
```

After that, you need to change the **nameserver** line, which is the server where DNS requests will be made, from "9.9.9.9" to "8.8.8.8", which is the Google server. Enter: **ctrl+O**, enter and **ctrl+X**.

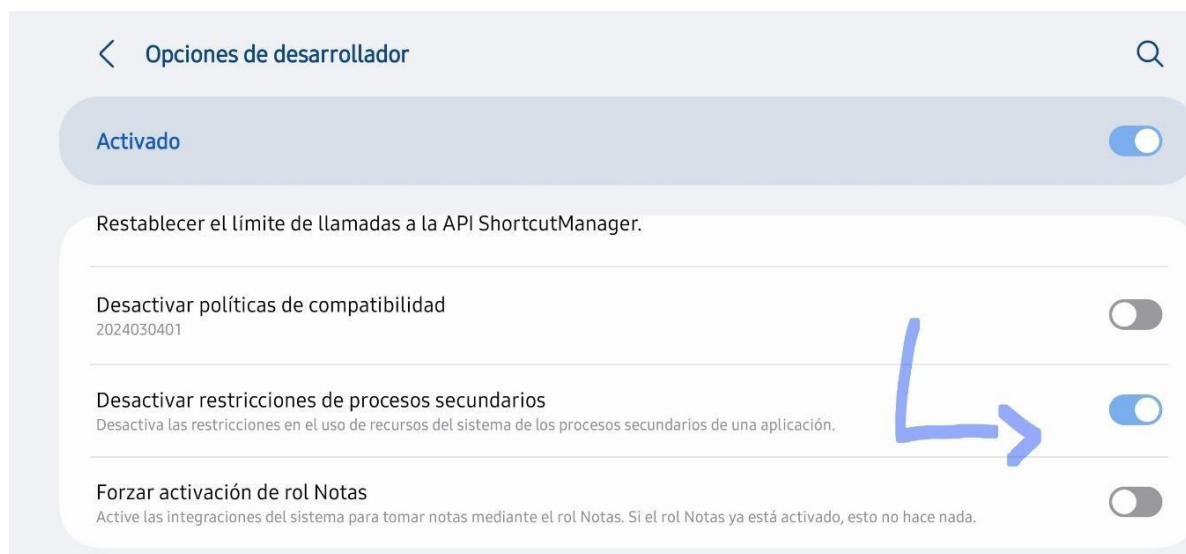


```
11:24 11:24 47%
GNU nano 7.2 /etc/resolv.conf *
nameserver 8.8.8.8
nameserver 149.112.112.112

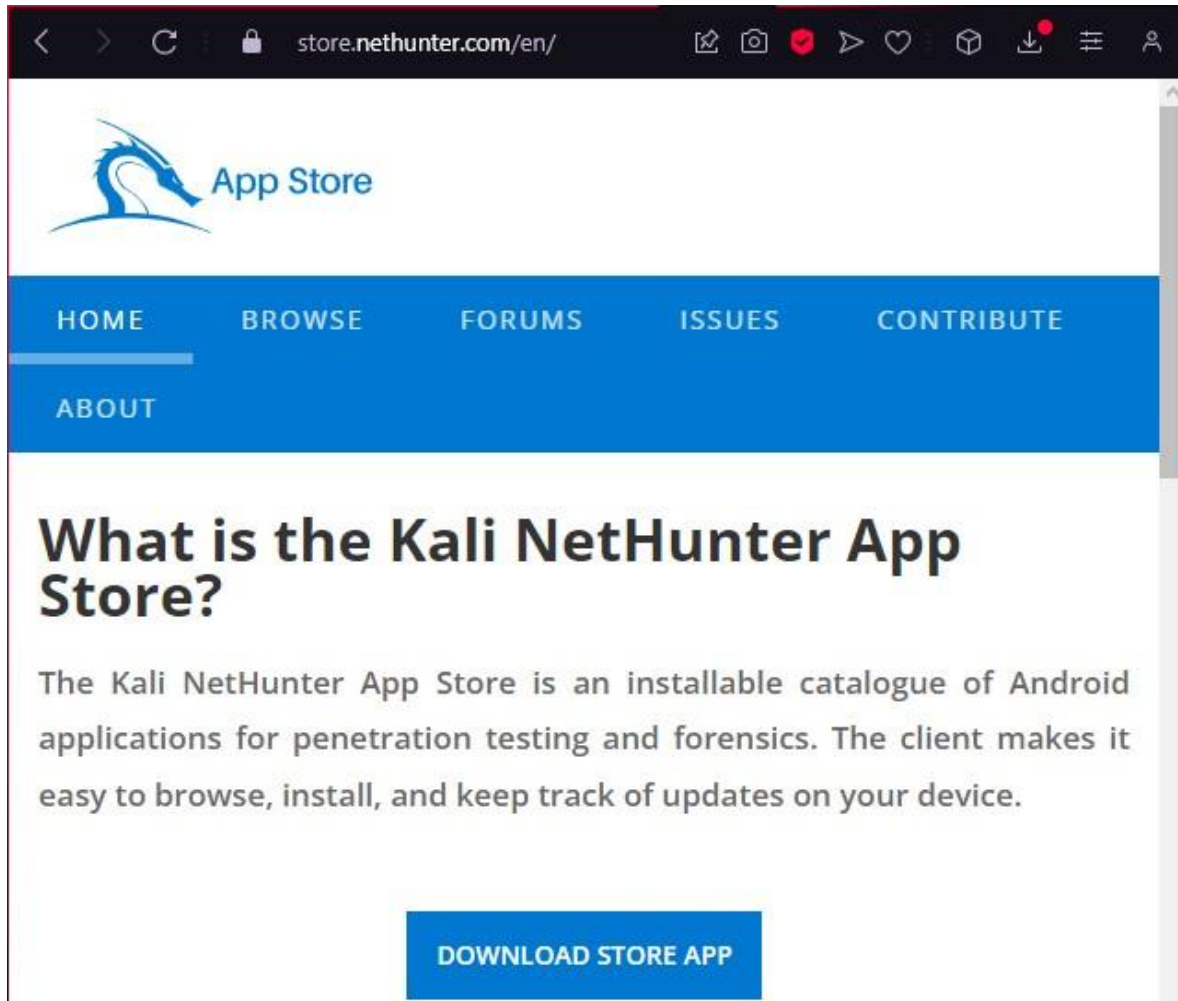
^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location   M-U Undo
^X Exit      ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^_ Go To Line  M-E Redo

ESC      /      —      HOME      ↑      END      PGUP
␣      CTRL      ALT      ←      ↓      →      PGDN
```

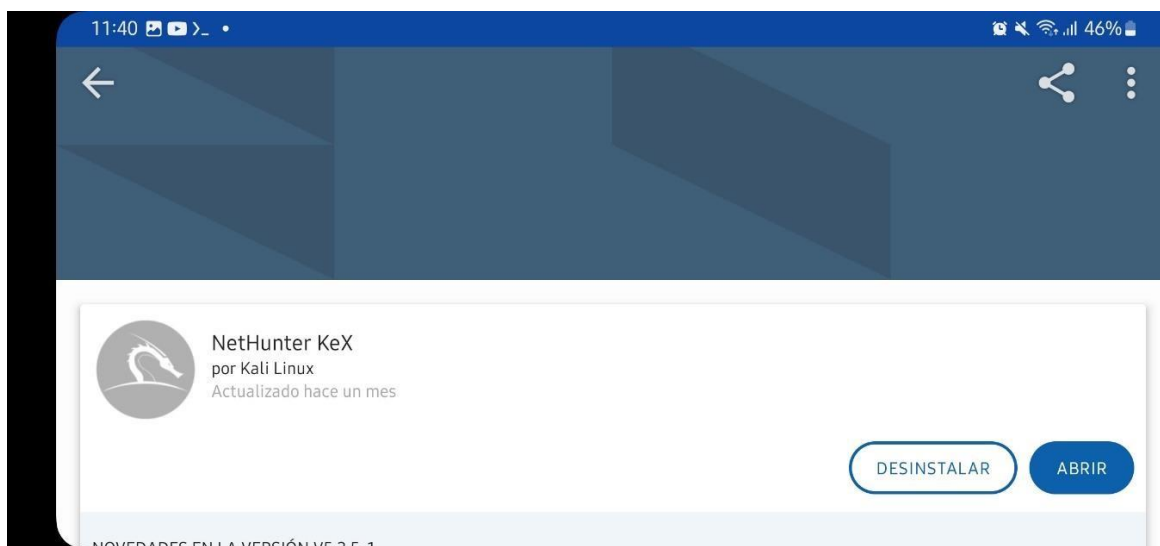
The next step will be to turn on a VNC server to start a graphical interface, but first, some configurations need to be done within the Android device. The first thing to do is to activate the Developer Options. Within this section, you need to enable the option "**Disable background process restrictions**". This is necessary to prevent Termux session from closing when running it in the background.



The next step will be to download and install the **NetHunter App**. You can do this by visiting the official website, clicking on "**Download Store App**", and then installing it on your Android device.



Within the NetHunter app, you need to search for and install the following application:



Now, within Termux, you'll need to exit the root session with "**logout**" and type "**nh keX**" to initiate a session with a graphical environment. It will prompt for a password and verification; then, it will ask for a password for view-only mode, to which you'll respond "no." After that, you'll receive information that the **NetHunter KeX** service has started on port **5901**.

```

11:43 ~ $ nh keX
vncserver: No matching VNC server running for this user!
vncserver: No matching VNC server running for this user!
Password:
Verify:
Would you like to enter a view-only password (y/n)? n
A view-only password is not used

NetHunter KeX server sessions:

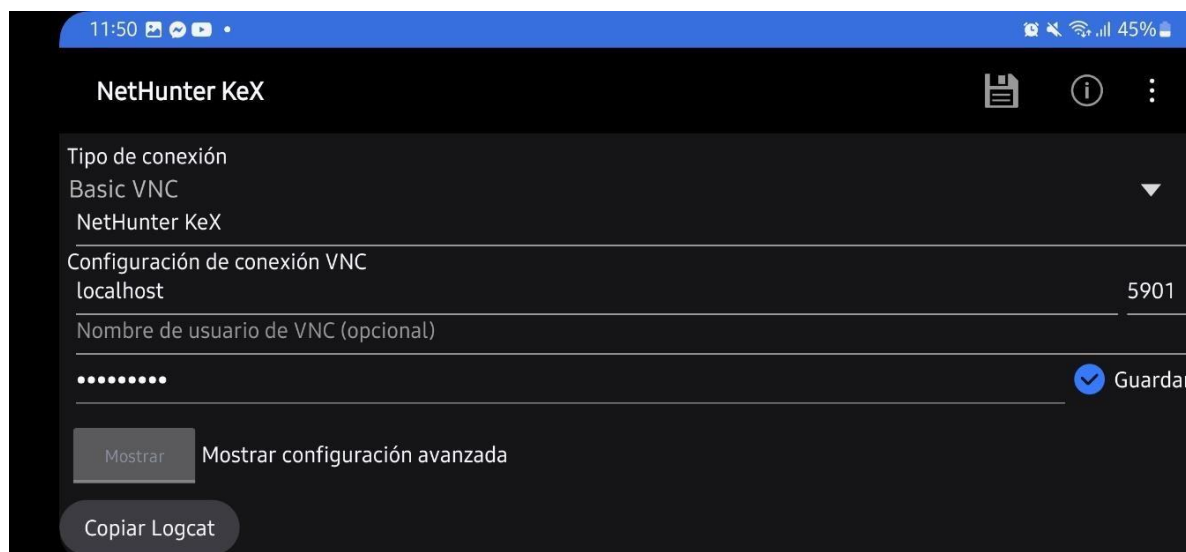
X DISPLAY #   RFB PORT #   RFB UNIX PATH   PROCESS ID #   SERVER
1           5901         /                25687         Xtigervnc

You can use the KeX client to connect to any of these displays.

ESC      /      —      HOME      ↑      END      PGUP
⇧      CTRL      ALT      ←      ↓      →      PGDN

```

Now, within the NetHunter KeX application, you need to configure a new session by entering the address you want to access, which is "**localhost**", the port, which would be **5901**, and the password assigned earlier.

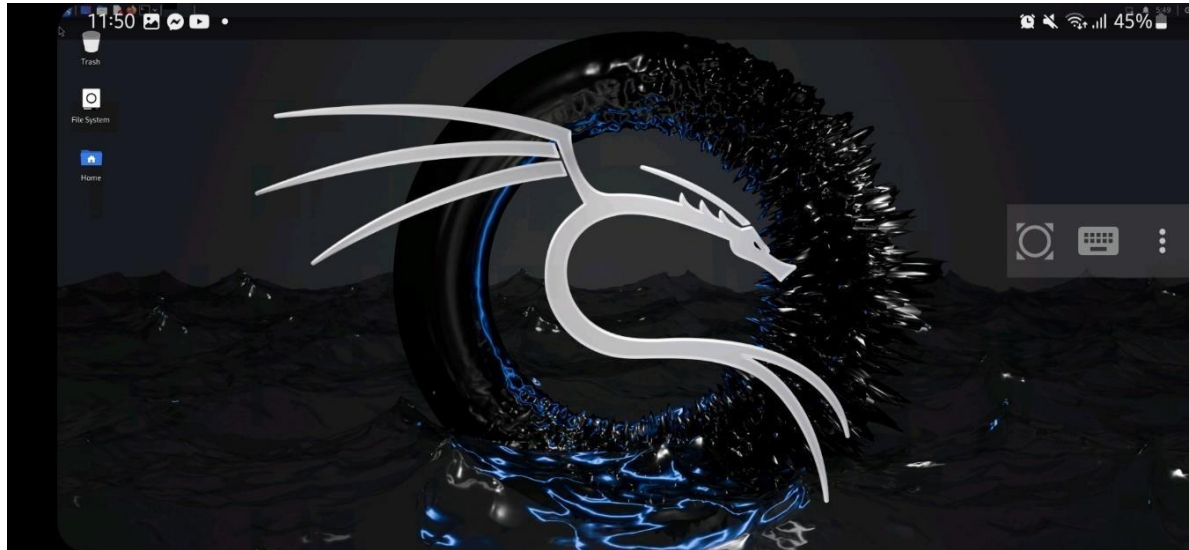


The screenshot shows the NetHunter KeX application interface. At the top, the title bar says "NetHunter KeX". Below it, there's a section for "Tipo de conexión" (Connection Type) with a dropdown menu showing "Basic VNC" and "NetHunter KeX". Under "Configuración de conexión VNC" (VNC Connection Configuration), there's a field for "localhost" and a port field set to "5901". There's also a field for "Nombre de usuario de VNC (opcional)" (Optional VNC Username) with a password mask ".....". A "Guardar" (Save) button with a checkmark icon is visible. At the bottom, there are buttons for "Mostrar" (Show), "Mostrar configuración avanzada" (Show advanced configuration), and "Copiar Logcat" (Copy Logcat).

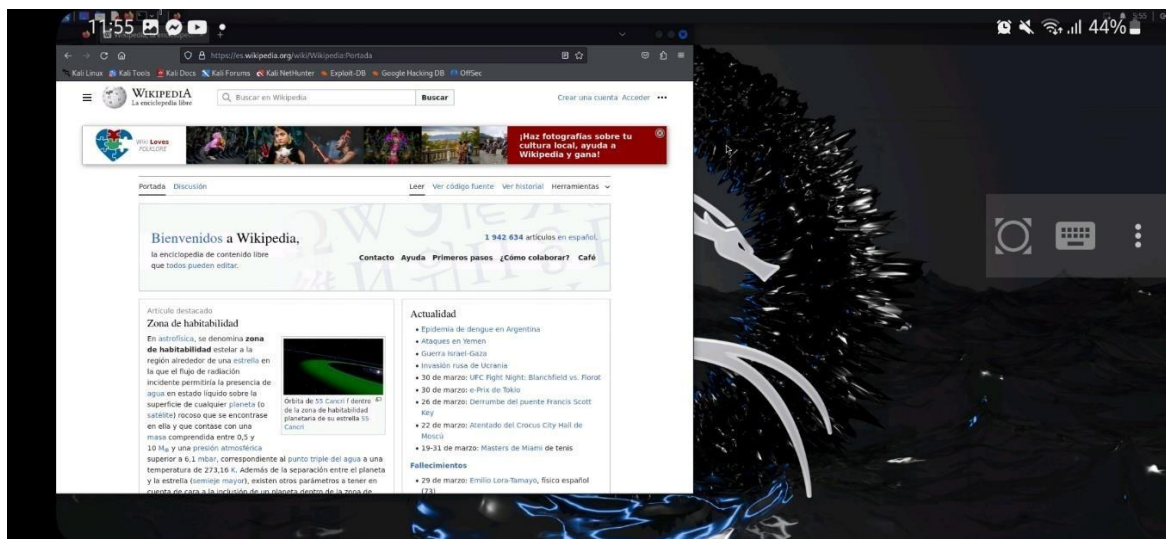
You need to save the session and then start it.



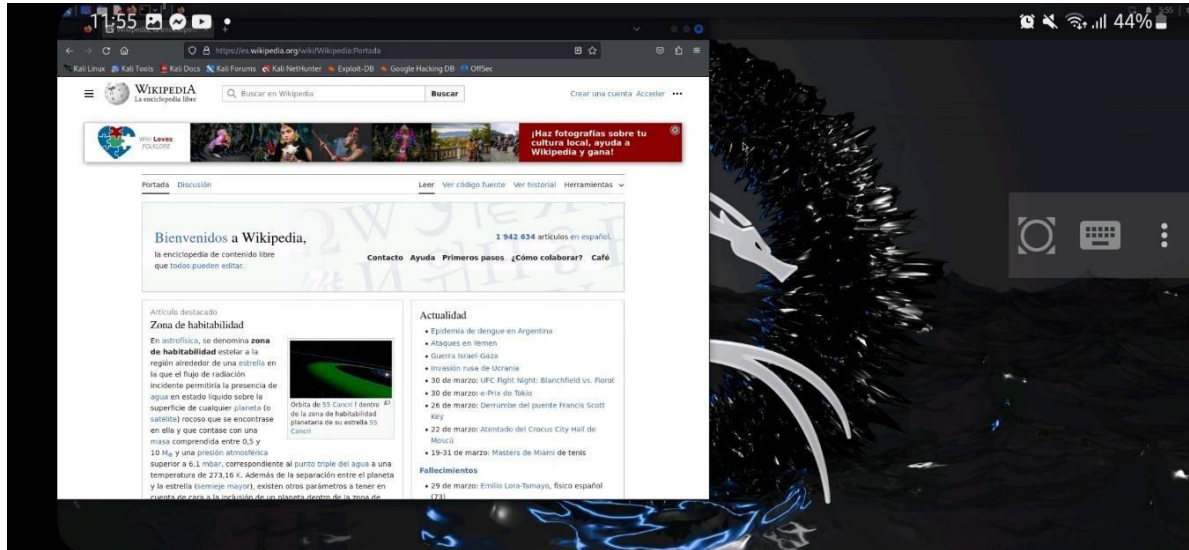
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And now, you will have Kali Linux running with a graphical environment on your Android device.







## CONCLUSION:

So, to sum it up, running Kali Linux on my Android phone lets me do cool stuff with computer security. It might seem hard, but if I follow the steps in this guide, I can do it.

Now that I've got Kali Linux on my phone, I can learn more about computer security wherever I go.

With Kali Linux on my phone, I can explore and learn more about computer security, whether it's for school, work, or just because it's interesting.

## AUTHORS

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